

A Snapshot of Kidney Cancer

Incidence and Mortality

[Kidney cancer incidence](#) has been increasing steadily for the past 65 years. The increase in incidence since the 1990s reflects a rapid increase in local-stage disease that has been attributed in part to incidental diagnosis during abdominal imaging and may not represent a true increase in cancer occurrence. The overall [mortality](#) rate from kidney cancer remained relatively steady over much of the past two decades but recently has begun to decrease. Kidney cancer incidence and mortality rates are more than twice as high in men as in women.

The main [risk factors](#) for kidney cancer are smoking, obesity, high blood pressure, misuse of certain pain medicines for an extended period of time, and having certain inherited conditions. There are no recommended [screening](#) tests for kidney cancer. Computed tomography ([CT](#)) and magnetic resonance imaging ([MRI](#)) scans can be used to look for kidney cancer in people with genetic conditions that place them at high risk. Standard treatments for kidney cancer include surgery, [radiation therapy](#), [chemotherapy](#), [biological therapy](#), and [targeted therapy](#).

It is estimated that approximately \$3.8 billion¹ is spent in the United States each year on kidney cancer treatment.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at the [SEER](#) Web site.

¹ [Cancer Trends Progress Report](#), in 2010 dollars.

Trends in NCI Funding for Kidney Cancer Research

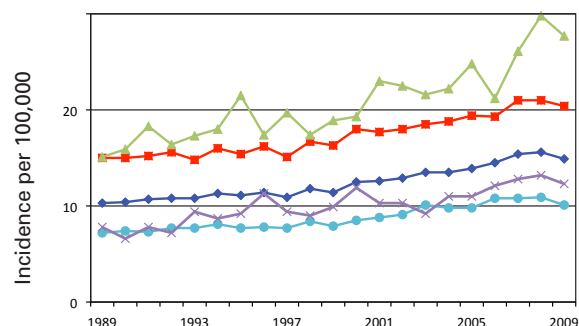
The National Cancer Institute's (NCI) investment² in [kidney cancer research](#) increased from \$31.4 million in fiscal year (FY) 2007 to \$46.2 million in FY 2011. In addition to this funding, NCI supported \$7.6 million in FY 2009 and 2010 in kidney cancer research using funding from the American Recovery and Reinvestment Act (ARRA).³

Source: NCI [Office of Budget and Finance](#).

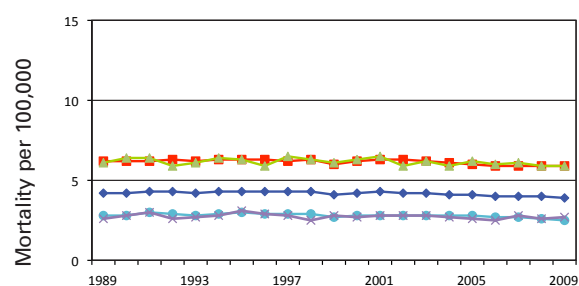
² The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see [About NIH](#).

³ For more information regarding ARRA funding at NCI, see [Recovery Act Funding at NCI](#).

U.S. Kidney Cancer Incidence

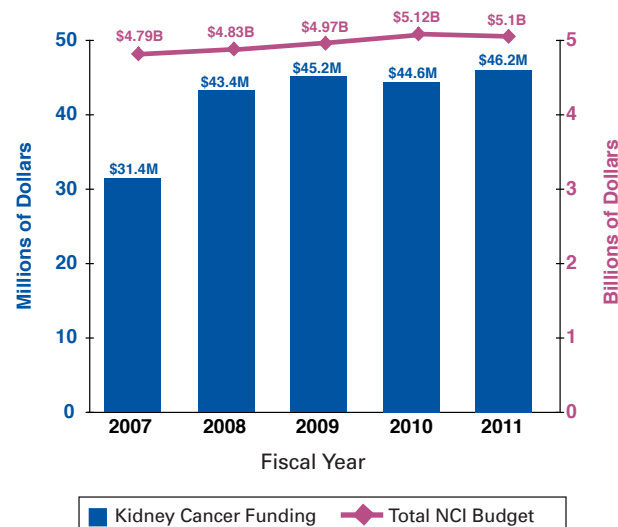


U.S. Kidney Cancer Mortality



◆ Overall ■ White Males ● White Females
▲ African-American Males ✕ African-American Females

NCI Kidney Cancer Research Investment

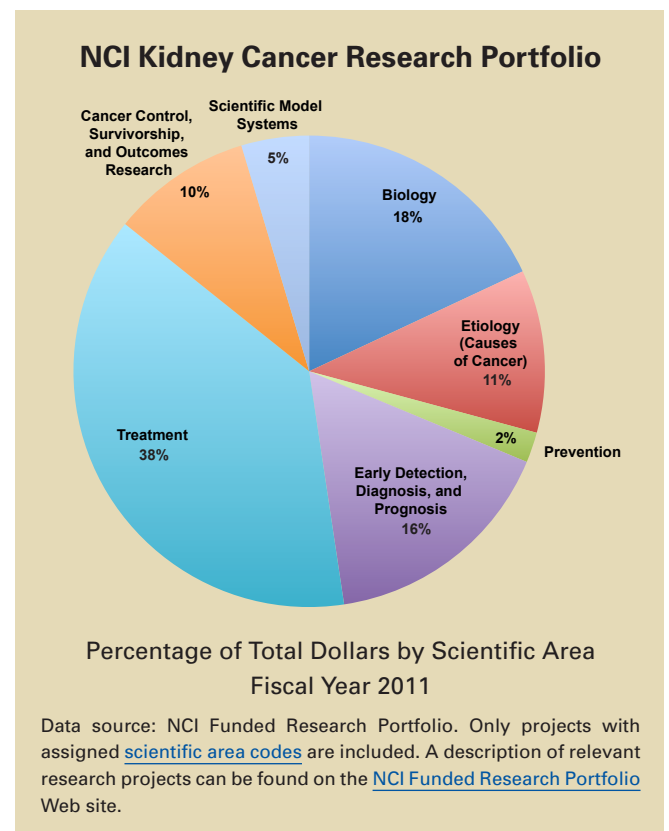


Examples of NCI Activities Relevant to Kidney Cancer

- The [Urologic Oncology Branch](#) conducts basic and clinical research on the detection, prevention, and treatment of genitourinary cancers. The branch is focused on studying genes involved in the initiation and progression of kidney and prostate cancers.
- NCI's [Genitourinary Malignancies Center of Excellence](#) encourages collaboration between scientists studying genitourinary cancers, promotes opportunities for research, leverages research tools and resources, and trains young investigators.
- NCI's Division of Cancer Epidemiology and Genetics is conducting the [Kidney Cancer Study in Chicago and Detroit](#) to elucidate the reasons for higher incidence of the disease among African Americans.
- The [Cancer Genome Atlas \(TCGA\)](#) project is systematically identifying the major genomic changes involved in more than 20 cancers using state-of-the-art genomic analysis technologies. TCGA researchers hope to identify patterns of genomic change that divide kidney cancer into subgroups and genomic differences that distinguish tumors across gender, race, and ethnicity as well as to investigate patterns of genomic changes that relate to tumor recurrence after therapy.
- NCI supports the [Phase III Randomized Study of Everolimus with Versus without Bevacizumab in Patients with Advanced Renal Cell Carcinoma that Progressed after First-line Treatment with Tyrosine Kinase Inhibitors](#), a clinical trial that will determine whether using two targeted therapies in combination will extend survival in patients whose tumors are resistant to other targeted therapies.
- The [Phase I Study of Intravenous Recombinant Human IL-15 in Adults with Refractory Metastatic Malignant Melanoma and Metastatic Renal Cell Cancer](#) is a first-in-humans study of a promising [immunotherapy](#) agent called interleukin-15 (IL-15) that was developed and produced through NCI's Developmental Therapeutics Program.

Additional Resources for Kidney Cancer

- The [What You Need To Know About™ Kidney Cancer](#) booklet provides information about possible causes, symptoms, diagnosis, and treatment of kidney cancer. Information specialists also can answer questions about cancer at 1-800-4-CANCER.
- The NCI [Kidney Cancer Home Page](#) and [Wilms Tumor and Other Childhood Kidney Tumors Home Page](#) provide up-to-date information on kidney cancer treatment, prevention, genetics, causes, and related topics.
- Information on treatment options for [kidney cancer](#), [Wilms tumor and other childhood kidney tumors](#), and [transitional cell cancer](#) is available from PDQ, NCI's comprehensive cancer database.
- Clinical trials** for [kidney cancer](#), [Wilms tumor](#), and [transitional cell cancer](#) can be found in NCI's list of clinical trials.



Selected Advances in Kidney Cancer Research

- Analysis of data pooled from two large prospective studies showed an [association between long-term use of certain painkillers and increased risk of kidney cancer](#). Published September 2011.
- Identification of a [unique metabolic profile of a rare, aggressive form of kidney cancer](#) may provide insight into fundamental aspects of tumor development and could lead to the development of new diagnostics and therapeutics for tumors with similar metabolic alterations. Published September 2011.
- An integrated genome-wide analysis identified genomic differences between [two distinct subgroups of the most common form of kidney cancer](#) and two potential therapeutic targets. Published November 2011.
- Using kidney cancer tissue samples and cell lines, researchers identified a [microRNA molecule that suppresses cell growth, invasion, and migration in one form of kidney cancer](#). Published December 2011.
- Click [here](#) to access selected free full-text journal articles on advances in NCI-supported research relevant to kidney cancer. Click [here](#) to search for additional scientific articles or to complete a [search tutorial](#) on PubMed.